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Mobile communications and Telecommuting: Are they a necessary evil for Business Community in Kenya?

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Abstract

Telecommuting is becoming a critical human resource management strategy in many organizations due to its implications for increased employee flexibility and productivity and organizational cost savings. Mobile technology is gaining popularity among people globally, including low income earners. This is because of the vast convenience for the users brought by the mobile communication devices. Many of the mobile devices are faced out at an alarming rate due to rapid technological change. Several studied literature lead to widespread agreement that landfill of electronic waste and electric equipment is not a suitable end-of-use management choice. If landfill was diverted through the recycling of e-waste, which typically consists of the recovery of a limited quantity of metals, then it would save on many things including the health of human beings since some of chemicals contained in mobile devices are hazardous to the human body. This paper seeks to explore information on telecommuting and remote communications where benefits and challenges are considered. Also, the green implication of telecommuting is looked at. Finally, the paper presents information on reuse and disposal of mobile devices.

Keywords: *Telecommuting, Green Computing, Mobile Devices, Reuse, Recycle, WEEE*

1.0 Introduction

The development of Information Technology and the growth of the Internet through high speed networks, network environments have been changed from environments in offices based on public institutions and business industries to the digital interconnection in home networks (Hwang & Donghui, 2012). Engaging in work by use of Information and Communication Technology from sites other than a corporate office is transforming work and life (Sebastian et al, 2014). This is commonly referred to as telecommuting. Telecommuting reduces the constraints imposed by traditional work environments, increases the work and family life cohesion and assures the employees that managers care about them. Seamas (2005) states that Tele-work not only extends where and when knowledge workers can engage in their work, but it also

transforms the perception of work and life. However, this arrangement has encountered some challenges which require a flexible schedule to mitigate.

Mobile communication is considered as a beneficial mode of communication compared to the traditional all time travelling mode. According to Chhibber (2007), mobile penetration is strongly correlated with economic growth and social benefits. The authors further state that mobile communications bridges the digital divide in the developing world. Because of its affordability, it is owned by many people. Unfortunately, due to the rate of change of the developments in the mobile technology, the devices become outdated extremely fast and these leads many ending up as landfills. This comes along with effects to the human life because of the chemical content within parts of the mobile devices.

2.0 Tele-working

There isn't a single definition of the term Tele-work in existence but the different existing definitions encompass a set of concepts which include information technology, link with the organization and de-location of work. Tele-work also known as telecommuting describes work that takes place away from traditional offices by use of technology (Sebastian et al, 2014). Sullivan (2003) describes Tele-work as the engagement in work from a workplace other than a central corporate office in which information technology plays an important role in the work activity. Tele-work is described as the engagement in work from a workplace other than a central corporate office, where information technology plays an important role in that work activity (Sullivan, 2003). Telecommuting is an alternative work arrangement whereby employees carry out tasks elsewhere that are normally done in a primary or central workplace, for at least some portion of their work schedule, using electronic media to interact with others inside and outside the organization (Gajendran & Harrison, 2007). For the purpose of this paper, Tele-working shall be considered as the work carried at a location remote from the central offices in which the worker has no personal contact with his/her co-workers although he/she is able to communicate with them using technology. Therefore, Information Technology is a major component of Tele-working since it enables workers to be in constant communications with their organization and their colleagues. Remote work involves work activities that are undertaken at a location away from an office environment in which there are few people and communications and travel are difficult.

3.0 The problem

While telecommuting is good for both individuals and organizations, the same communication infrastructure, is received with mixed reactions because of the challenges that it brings along. This then requires the organization to weigh between the advantages and disadvantages of telecommuting before adopting it. Also, the green implication should be considered because whatever that is to be undertaken has to be environmentally friendly. Telecommuters mostly use mobile devices to easily communicate with their colleagues. Despite its unambiguous advantages, cellular phone use has been associated with harmful (Billieux, 2012). This calls for care to be taken in handling a mobile device that is no longer in use. This is the prime motivation of engaging in a study on reuse and disposal of mobile devices.

4.0 Discussion

4.1 The green implications of remote communications

Green computing is the practice and procedures of making use of computing resources in an environment friendly way while ensuring overall computing performance is maintained (Saha, 2014). One of the green

implications of remote communication is that organizations realize lower energy costs and even save a lot on government taxes (Murugesan, 2008). This is achieved by reducing the organizational infrastructure that requires energy consumption for example few computers since employees are telecommuters, switching off the computer most of the time in the case of part-time telecommuters because if employees are required to commute always, they waste company resources by ensuring computers are on always even if they have no work to perform.

According to Sebastian et al, (2014), telecommuting enables organizations to reduce certain expenses. Thus, lower costs can be realized from reducing office space, parking spaces, energy consumption and reduced overcrowding of offices. The author further states that telecommuting reduces need to commute for employees or reduces office related expenditure for organizations. Duxbury & Hinnings, (2002) state that the most evident advantage of telecommuting is the time saved in commuting to and from work each day. Also, the authors argue that company- initiated telecommuting arrangements are often aimed at reducing costs (for example facilities costs or costs associated with lost productive employee time due to difficult commutes) or to retain highly talented personnel who would not be able to work for the organization in a traditional work arrangement. Furthermore, with increased numbers of employees working in remote locations, organizations can reduce their investments and expenditures in office buildings, parking lots, and other physical capital. Gajendran & Harrison (2007) advocates on the importance of telecommuting which include heightened morale, improved work–life balance and increased productivity.

Fitzer (1997) states that several organizations use telecommuting to decentralize their operations and to organize them into networks. The author further states that organizations can continue to operate in emergency situations. For instance, during the recovery and rebuilding following a series of earthquakes, many Californian companies relied on telecommuting to continue their daily operations. Telecommuting allows for a more efficient usage of the organization's information system, particularly during non-office hours (e.g., at night and on weekends). Telework help to retain the traditional family, with women staying in their 'proper' place within the home. Since commuting serves as a buffer between the employees home and work domains, lack of a commuting decreases the opportunity for employees to reduce the transfer of stress from one domain to the other (Duxbury & Hinnings, 2002).

Also, since remote communication saves on parking space, it leads to environmental friendliness because less carbon is produced in the organization's surrounding environment and this consequently leads to reduction of global warming.

4.2 The benefits of remote communications and Tele-working

Remote communications and telecommuting has several benefits. First, studies indicate that telecommuting increases the loyalty of employee to the organization, reduces employee absenteeism, and increases employee general satisfaction. Telecommuting reinforces existing relationship between the workers and their organizations.

Telecommuting allows organizations to retain employees who might otherwise have left the organization and attracts skilled employees who are unwilling to relocate and to whom flexibility is of importance. Also, telecommuting work arrangement leads to increased autonomy and flexibility of work schedule (Duxbury & Hinnings, 2002) which contributes to loyalty. Telecommuting improves productivity and quality of work by the employees (Sebastian et al, 2014). Telecommuting leads to flexibility in work location and this is likely to increase self-reliance in scheduling employee tasks and to increase control over the means of

completing them by employees themselves (Gurstein, 2001). Telecommuting enables greater organizational flexibility and a capacity to better and quickly respond to unexpected events (Sebastian et al, 2014). For example, some organizations use telecommuting to decentralize their operations and to organize them into networks. Also, organizations have the ability to continue operating in emergency situations, an instance being during the recovery and rebuilding following an earthquake, companies can rely on telecommuting to continue their daily operations. Telecommuting allows for a more efficient usage of the organization's information system, especially during non-office hours.

A telecommuting agreement can improve employee productivity because individuals who carry on their work remotely are unaffected by typical office environment distractions (Duxbury & Hinnings, 2002). Thus it facilitates a greater focus on work for more concentrated periods of time. Tele-work not only extends where and when knowledge workers can engage in their work, but it transforms the notion of work and life (Seamas, 2005).

Telecommuting work arrangements provides organizations with a larger talent pool from which to recruit and select (Duxbury & Hinnings, 2002). Furthermore, organizations are better able to employ disabled individuals who are capable of employment but whose physical circumstances may prevent them from working on-site and in that way the organization opens up more employment opportunities to more individuals.

Duxbury & Hinnings, (2002) state that telecommuting saves time which could have been used to commuting to and from work each day. Also, telecommuting reduces absenteeism, increases employee loyalty to the organization, and increases their general satisfaction. Olson (1987b) brings it fourth that telecommuting reinforces the existing relationship between workers and their organizations. Telecommuting was found to allow organizations to retain employees that might otherwise have left and attract skilled employees who were unwilling to relocate and for whom flexibility was important (Davenport & Pearl son, 1998). Telecommuting allows organizations to reduce certain expenses. This include, lower costs can be realized from reducing office space, energy consumption, parking spaces, and overcrowding of offices (McCune, 1998). Telecommuting allows greater organizational flexibility and a better capacity to quickly respond to unexpected events (Monett, 1998). Gajendran & Harrison (2007) agrees that telecommuting reduces organization costs. The author further states that Telecommuters are likely to experience increased freedom feelings and discretion in general because they are psychologically removed from direct, face-to-face supervision.

4.3 Challenges of Telecommuting

Although the autonomy and flexibility brought about by telecommuting in managing work can lead to increased productivity and satisfaction among employees, it has its own challenges which include: difficulty in separating work and home lives (Duxbury & Hinnings, 2002). This is because employees who work from home may experience difficulties in creating clear demarcations between personal time and work time. Also, due to the ubiquitous ability to work, sometimes telecommuters find themselves working overtime late into the evenings, on the weekends, or even on vacation.

Lack of face-to-face interaction with co-workers leaves some telecommuters with a feeling of social isolation and out-of-the-loop (Duxbury & Hinnings, 2002). The feeling can manifest itself in a form, example being, job successes and achievements which can seem less exciting without others with whom to celebrate. Also, Informal learning that takes place in an organizations work environment is missed by the telecommuter

(Kurland & Bailey, 1999). In addition, several work tasks can seem discouraging if the employee feels isolated from supporting resources an example being manager willing to provide advice or feedback.

A challenge presented by telecommuting to an organization is the perceived difficulty in monitoring employee performance and measuring employee productivity (Duxbury & Hinnings, 2002). Therefore, organizations which implement telecommuting arrangements should be committed to trusting their employees, empowering them to make decisions and measuring by outcomes rather than face-time.

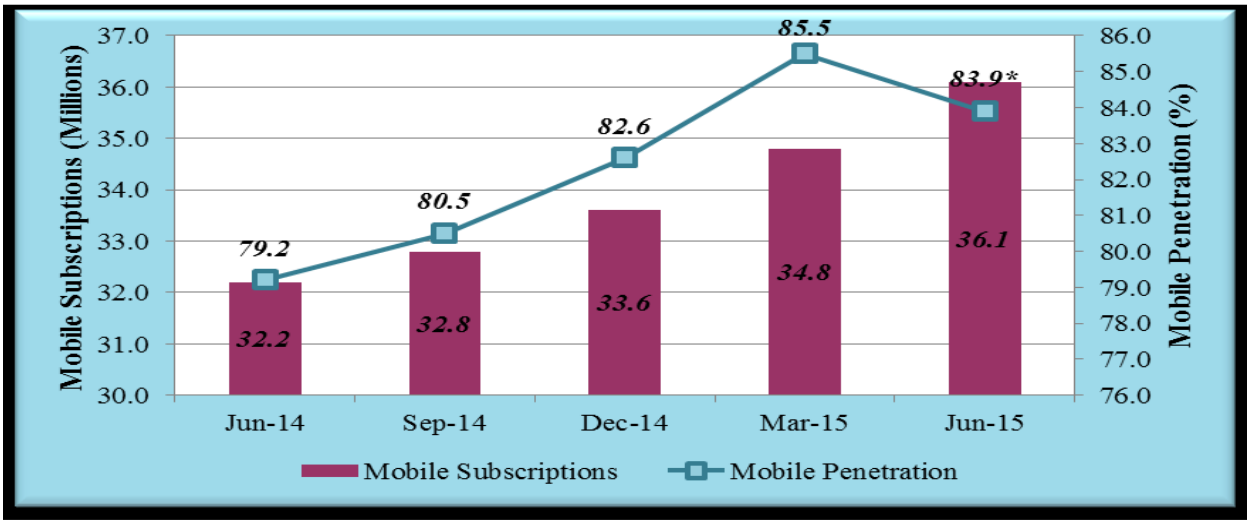
The above challenges that come along with telecommuting call on organizations that encourage their employees to telecommute to consider part-time telecommuting because it is looked at as optimal and it mitigates feelings such as those of social isolation and taps into the importance of teamwork and learning (HR Focus, 2002).

5.0 Mobile communications

The rapid diffusion of digital technologies especially mobile telephony is opening an enormous diversity of new opportunities for people with different levels of restrictions for example physical, geographical and even age (Abascal & Civit, 2000). Mobile technology not only enables ubiquitous communications but also it allows anytime access to some services that are vital for autonomy. Digital technologies enable common and even synchronous activities to be distributed across employees at remote locations (Gajendran & Harrison, 2007). The digital technologies are also a means for employees to adjust their schedule to meet family demands and household needs and alternatively to save commuting costs by carrying out their work from home or satellite offices (Nick son & Siddons, 2004). Chhibber, (2007), argues that mobile communication contributes more than any other technology to bridge the digital divide.

5.1 Mobile subscription

Kenya's mobile market continues to demonstrate strong growth with mobile subscriptions reaching 36.1 million by June 2015 showing an increase of 3.9 million subscriptions when compared to the same period of 2014 that posted 32.2 million mobile subscriptions (Communications Authority of Kenya, 2015). According to Communications Authority of Kenya, 2015, Kenya recorded mobile penetration of 83.9 per cent in June 2015 which represented a decline from the previous quarter that recorded penetration levels of 85.5 per cent. It is stated that this came as a result of revision of the base population figure used to compute for penetration which increased from 40.7 million to 43.0 million in line with the Economic Survey 2015. Nevertheless, mobile penetration grew by 4.7 percentage points when compared to the same period of the previous year. **(**Communications Authority of Kenya, 2015**)**



Source: Communications Authority of Kenya, 2015

According to the GSMA Global Mobile Economy Report, 2015, at the end of 2014, half of the world's population had at least one mobile subscription, which totaled to over 3.6 billion unique mobile subscribers. It is projected that by 2020, around three-fifths of the global population will have a mobile subscription, with close to one billion new subscribers added over the period.

5.2 Challenges of Reuse and Disposal of Mobile Telecommuting to Green ICT

There is a notable increase in electronic wastes in the surrounding environment in both the underdeveloped and the developed nations because of the increase in the technology level across continents (Sije & Ochieng', 2013). The fame of mobile handsets in people's daily lives has created some aspects that are worrying and drawing the attention of government, users and regulators (Chhibber, 2007). Among the aspects are health issues due to almost all time exposure to electromagnetic radiation and impact on environment. The coatings of the cell phones are made of lead, which is a chemical that is toxic and can result in undesirable health effects when a person is exposed to high levels of it (Alan et al, 2010). The cell phones circuit board is made of gold, copper, zinc, lead, beryllium, coltan and tantalum which require significant resources (Alan et al, 2010).

Millions of mobile handsets are becoming outdated or going beyond economical repair in almost all the countries of the world (Chhibber, 2007). Ranquesa et al, (2015) stresses that digital devices are scrapped at an alarming rate instead of being salvaged, fixed, and reused, thus losing their final product added value. Wen & Kaabouch, (2012) agrees that mobile phones are significant contributors to the large and growing stream of Waste Electrical and Electronic Equipment (WEEE) which leads to considerable environmental and health burdens. A significant driver of concern is the total number of mobile phones in use and the constant growth of this technology segment, coupled with the short life span of mobile phones (Wen & Kaabouch, 2012). The author further state that given smart phones are replacing traditional cellular phones quickly and that a very large portion of the consumer population is in possession of one then, determining how to minimize the mobile phones' environmental impact would considerably reduce the negative effects of mobile phone waste in the future.

According to Ranquesa et al, (2015), many digital devices, such as desktop, tablet, laptop or mobile phones, from businesses and public organizations are dismantled and recycled when out of guarantee, despite being nearly up-to-date and in perfect condition. Thus, the present practices for dealing with Waste Electric and Electronic Equipment (WEEE) appear not good enough because it leads to a loss of secondary resources and damage to the environment (Balde et al, 2015). Ranquesa et al, (2015, suggest that the alternatives to mitigate the production of e-waste come from reduction and reuse. Many valuable materials that can be recycled are contained in mobile phones which include plastics and precious metals. According to Wabwoba et al (2014), every one million recycled phones make it possible to recover almost 35kg of gold and 350kg of silver. The future electronic devices can be re-produced from the products of recycled phones. Wen & Kaabouch (2012) agrees that reuse of end-of-life mobile phones should be encouraged to promote the wise management of WEEE. Reuse of digital devices ensure there is recycling, prevents waste generation, effectively contributes to generating a circular economy, strengthens the digital skills and reduces the risk of WEEE issues an example being leakage to landfills (Franquessa et al, 2010). Furthermore, reuse can assist in reducing the digital divide and strengthen institutions and projects which are necessary social change (Ranquesa et al, 2015). For reuse, the environmental benefits and social benefits include less packaging per unit, diminished demand for virgin raw materials and new products, technology availability to larger population of society because of greater affordability of products and diminish the use of landfills (Alan et al, 2010).

6.0 Summary

The adoption of telecommuting by organizations and individuals is considered beneficial to both because of the advantages associated with it. These include overall employee satisfaction since the employee has flexible working schedule. This then translates to increased productivity thus overall improved organization's performance. However, telecommuting arrangement encounters several challenges to both the employee and the organization which if not monitored, they may lead to the overall failure of the organization. This therefore requires the organization that may be planning to adopt the telecommuting arrangement to weigh between the benefits and drawbacks. The green implications of telecommuting should also be put into consideration by the organization.

Since telecommuting rely on technology that is mobile, especially mobile phones for communication, the adoption and disposal of the devices has to be put into consideration to maintain a friendly environment. This is because the mobile devices become outdated at an alarming rate and they contain chemicals that are harmful to the human body. The harmful effect can be accelerated if the mobile phones are let off as landfills in the environment. Some materials for example the ones used for making the phone's circuitry board use significant resources. This is the reason why it is necessary to recycle used mobile phones and source the scarce materials as possible.

In conclusion, mobile and remote communications are of much importance both to the organization and employee. This can be realized in increased productivity and cost saving for the organization and much flexibility for an employee. However, some jobs require the physical presence of the employee. Thus, for mutual benefit, a flexible work arrangement such as part-time telecommuting should be considered. Also, due to the constant emergence of mobile devices with improved features, it has embraced many individuals rendering the previous mobile devices owned by the same individuals to be useless even if they are still in good condition. Many of them end up as landfills. Thus, reuse and better disposal of mobile devices should be encouraged.

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